

WHAT IS CLAIMED IS:

1. A system comprising:
a broadcast overlay network having a ring topology to carry broadcast traffic from a head-end network; and
a digital subscriber line access multiplexer (DSLAM) having a line interface and a network interface, the network interface in communication with the broadcast overlay network, the DSLAM to receive a request for a particular video channel from a customer premise via the line interface, and to deliver the particular video channel from the network interface to the line interface.
2. The system of claim 1 wherein the broadcast overlay network comprises at least one synchronous optical network (SONET) ring.
3. The system of claim 2 wherein the at least one SONET ring comprises an ingress add-drop multiplexer (ADM) to receive the broadcast traffic from the head-end network.
4. The system of claim 3 wherein the at least one SONET ring comprises a plurality of egress ADMs including an egress ADM connected to the network interface of the DSLAM.
5. The system of claim 4 wherein the at least one SONET ring comprises a plurality of SONET rings connected by at least one cross connect element, the plurality of SONET rings comprising a first SONET ring having the ingress ADM and a second SONET ring having the egress ADM connected to the network interface of the DSLAM.
6. The system of claim 1 wherein the request comprises an Internet Group Management Protocol (IGMP) request message.

7. The system of claim 1 wherein the DSLAM is further to determine an availability of the particular video channel based on a group address provided by the request.

8. The system of claim 1 wherein the DSLAM is further to determine an availability of the particular video channel based on a class-D Internet Protocol (IP) address provided by the request.

9. The system of claim 1 wherein the broadcast traffic comprises Internet Protocol (IP) multicast envelopes.

10. The system of claim 1 wherein the DSLAM is further to receive, from the customer premise via the line interface, a unicast request for a destination in the head-end network, and to deliver the unicast request to a legacy xDSL data network.

11. The system of claim 1 wherein the DSLAM is further to receive, from the customer premise via the line interface, a unicast request for a destination in the head-end network, and to deliver the unicast request to a dedicated data network separate from the broadcast overlay network and separate from a legacy xDSL data network.

12. The system of claim 11 wherein the dedicated data network comprises a virtual private network (VPN).

13. The system of claim 1 wherein the DSLAM is further to receive, from the customer premise via the line interface, a unicast request for a destination in the head-end network, and to deliver the unicast request to one of a legacy xDSL data network and a dedicated data network based on a policy decision, the dedicated data network separate from the broadcast overlay network and the legacy xDSL data network.

14. The system of claim 1 wherein the DSLAM is to receive, from the head-end network, unicast traffic whose intended destination is the customer premise, and to direct the unicast traffic to the customer premise via the line interface.

15. The system of claim 14 wherein the DSLAM is to receive the unicast traffic via a legacy xDSL data network.

16. The system of claim 14 wherein the DSLAM is to receive the unicast traffic via a dedicated data network separate from the broadcast overlay network and separate from a legacy xDSL data network.

17. A system comprising:

- a broadcast overlay network having a ring topology to carry traffic from a head-end network, the broadcast overlay network comprising a plurality of synchronous optical network (SONET) rings connected by at least one cross connect element, the plurality of SONET rings comprising an ingress Add-Drop multiplexer (ADM) to receive the broadcast traffic from the head-end network and a plurality of egress ADMs, the plurality of SONET rings comprising a first SONET ring and a second SONET ring, the first SONET ring having the ingress ADM;
- a dedicated data network separate from the broadcast overlay network and a legacy xDSL data network;
- a digital subscriber line access multiplexer (DSLAM) having a line interface and a network interface, the network interface in communication with one of the egress ADMs of the second SONET ring, the DSLAM to receive an Internet Group Management Protocol (IGMP) request message for a particular video channel from a customer premise via the line interface, to determine an availability of the particular video channel based on at least one of a group address and a class-D Internet Protocol (IP) address provided by the IGMP request, and to deliver the particular video channel from the network interface to the line interface;
- the DSLAM further to receive, from the customer premise via the line interface, a unicast request for a destination in the head-end network, and to deliver the unicast request to the dedicated data network; and
- the DSLAM further to receive, from the head-end network via the dedicated data network, unicast traffic whose intended destination is the customer premise, and to direct the unicast traffic to the customer premise via the line interface.

18. The system of Claim 17, wherein the ring topology only carries broadcast traffic.

19. A method comprising:
providing a broadcast overlay network having a ring topology;
carrying broadcast traffic, from a head-end network, over the broadcast overlay network;
receiving, via a line interface of a digital subscriber line access multiplexer (DSLAM), a request for a particular video channel from a customer premise; and
delivering the particular video channel from a network interface of the DSLAM in communication with the broadcast overlay network to the line interface.
20. The method of claim 19 wherein the broadcast overlay network comprises at least one synchronous optical network (SONET) ring.
21. The method of claim 20 wherein the at least one SONET ring comprises an ingress add-drop multiplexer (ADM) to receive the broadcast traffic from the head-end network.
22. The method of claim 21 wherein the at least one SONET ring comprises a plurality of egress ADMs including an egress ADM connected to the network interface of the DSLAM.
23. The method of claim 22 wherein the at least one SONET ring comprises a plurality of SONET rings connected by at least one cross connect element, the plurality of SONET rings comprising a first SONET ring having the ingress ADM and a second SONET ring having the egress ADM connected to the network interface of the DSLAM.
24. The method of claim 19 wherein the request comprises an Internet Group Management Protocol (IGMP) request message.

25. The method of claim 19 further comprising:
determining an availability of the particular video channel based on a group
address provided by the request.
26. The method of claim 19 further comprising:
determining an availability of the particular video channel based on a class-D
Internet Protocol (IP) address provided by the request.
27. The method of claim 19 wherein the broadcast traffic comprises Internet
Protocol (IP) multicast envelopes.
28. The method of claim 19 further comprising:
receiving, from the customer premise via the line interface, a unicast request for a
destination in the head-end network; and
delivering the unicast request to a legacy xDSL data network.
29. The method of claim 19 further comprising:
receiving, from the customer premise via the line interface, a unicast request for a
destination in the head-end network; and
delivering the unicast request to a dedicated data network separate from the
broadcast overlay network and separate from a legacy xDSL data network.
30. The method of claim 29 wherein the dedicated data network comprises a
virtual private network (VPN).

31. The method of claim 19 further comprising:
receiving, from the customer premise via the line interface, a unicast request for a
destination in the head-end network; and
delivering the unicast request to one of a legacy data network and a dedicated data
network based on a policy decision, the dedicated data network separate
from the broadcast overlay network and the legacy data network.

32. The method of claim 19 further comprising:
receiving, from the head-end network, unicast traffic whose intended destination
is the customer premise; and
directing the unicast traffic to the customer premise via the line interface.

33. The method of claim 32 wherein the unicast traffic is received via a legacy
xDSL data network.

34. The method of claim 32 wherein the unicast traffic is received via a dedicated
data network separate from the broadcast overlay network and separate from a legacy
data network.